

# AREL®

AHSAP  
WOOD

METAL  
METAL

MERMER  
MARBLE

CAM  
GLASS

PLASTİK  
PLASTIC



**AĞAÇ İŞLEME VE İŞ MİLİ MOTORLARI**  
**SPINDLE MOTORS**



TS EN ISO 9001:2015





Bir aile şirketi olan AREL, 1987 yılında Aydın Arcağ tarafından kurulmuştur. 1961 yılından bu yana imalat sektörü içinde olan Aydın Arcağ, AC-DC alternatörler ve jeneratörler, 400Hz jeneratörler, kaynak jeneratörleri, mobil aydınlatma kuleleri, konvertörlü tip beton vibratörleri, frekans konvertörleri ve yüksek frekanslı elektrik motorları (spindle) gibi ürünlerin Türkiye'deki ilk tasarımını ve yerli imalatını gerçekleştirmiştir.

Kurulduğunda küçük bir atölye ile üretime başlayan firmamız, kaliteye verdiği önem sayesinde yıllar içerisinde büyüyerek, üretim kapasitesini geliştirmiştir. Bugün AREL, 50'den fazla tezgahının bulunduğu geniş makine parkında, CNC işleme tezgahları ve üretim konusuna özel makinaları ile 5.000m2 kapalı alan üzerinde üretimine devam etmektedir.

*As a family company, AREL was founded in 1987 by Aydın Arcağ who has been working in manufacturing sector since 1961. During this period, he has successfully designed and produced AC – DC alternators and generators, 400Hz generators, welder generators, mobile floodlight towers, converter type concrete vibrators, frequency converters and high frequency electric motors (spindles) in Turkey.*

*Arel started out as a small workshop, but has grown over the years to be the leading manufacturer in its field in Turkey, due to the importance it attaches to quality and manufacturing efficiency. Today, AREL's production facilities resides on a 5.000m2 closed factory area, equipped with CNC machining benches and a wide range of machinery exceeding 50 units.*

▶ AREL, 1990'lı yıllarda spindle motor üretimine, tezgâh üreticileri için 12.000 d/dak.'lık özel elektrik motorları üreterek başlamıştır. 2000'li yıllara doğru, imalatı giderek artan çeşitleriyle binlerce motor üretmiş ve tecrübe kazanmıştır. Bu sürede üretim kalitesini yükseltmiş, imalatta makineleşmeye geçmiş ve zaman içerisinde özellikli ürünlere de yönelerek, ürün yelpazesini de genişletmiştir.

Hassas ve özel üretim gerektiren spindle motorları, delik delmeden tornalamaya, taşlamadan balans almaya, bobinajdan alüminyum enjeksiyona kadar üretiminin her aşamasında, özel makineler kullanılarak üretim süreci tamamlanıp, teker teker kontrol edilerek, AREL müşterilerine teslim edilmektedir.

AREL, bugün geldiği noktada, hava soğutmalı – su soğutmalı modelleri, 0.18kW – 30 kW, 50Hz – 600Hz, 1.500rpm – 24.000 rpm arası ve 100'den fazla ürün çeşidi ile dünya markalarıyla rekabet edebilecek kalitede spindle motorları üretmekte ve 4 kıtada 20'den fazla ülkeye ihracat yapmaktadır.

*AREL started to produce spindle motors in the 1990s with the production of 12.000 rpm special electric motors for various machine manufacturers. By 2000s, AREL had produced thousands of spindle motors and had gained considerable experience with its ever-increasing range of products. In this period, Arel further increased its production quality, switched to semi-automation in production, and expanded its product range by offering special products.*

*At AREL, spindle motor production process, which requires high precision and special processes, is completed by using custom-tailored machinery at every stage of production from drilling to lathe operations, from grinding to balancing, from winding to aluminum injection, before final testing and delivery.*

*Today, AREL manufactures more than 100 variety spindle motors with air-cooled and water-cooled models from 0.18 kW to 30 kW, from 50Hz to 600Hz, from 1.500 rpm to 24.000 rpm that competes with world brands in terms of quality, and are exported to more than 20 countries in 4 continents.*







A R F M . 1Y - S2

AREL

**Frekans Motoru**  
Frequency Motors

**Boy & Devir : S (kısa) - M (orta) - L (uzun)**  
Size & Speed : S (short) - M (medium) - L (long)

**Gövde Tipi : Y (yuvarlak) - K (kare)**  
Body Type : Y (round) - K (square)



**ARFM.1Y**

0,18 KW - 0,75 KW 12.000 - 24.000 Rpm

06



**ARFM.2Y**

0,18 KW - 2 KW 3.000 - 18.000 Rpm (24.000 Optional)

07



**ARFM.2K**

0,18 KW - 2 KW 3.000 - 18.000 Rpm (24.000 Optional)

08



**ARFM.3Y**

0,37 KW - 4 KW 3.000 - 18.000 Rpm (24.000 Optional)

09



**ARFM.3K**

0,37 KW - 4 KW 3.000 - 18.000 Rpm (24.000 Optional)

10



**ARFM.4K**

1,1 KW - 7,5 KW 3.000 - 18.000 Rpm (24.000 Optional)

11



**ARFM.5Y**

2,2 KW - 9 KW 3.000 - 12.000 Rpm (18.000 Optional)

12



**ARFM.6Y**

3,5 KW - 12,5 KW 1.500 - 12.000 Rpm (18.000 Optional)

13



**ARFM**

**TAKIM DEĞİŞTİRMELİ MOTORLAR (ATC)**

*AUTOMATIC TOOL CHANGE SPINDLES*

1,1 KW - 12,5 KW 1.500 - 18.000 Rpm

14



**ARES**

**TAKIM DEĞİŞTİRMELİ MOTORLAR (ATC)**

*AUTOMATIC TOOL CHANGE SPINDLES*

2,2 KW - 9 KW 3.000 - 24.000 Rpm

15



**ARFM**

**ELEKTRİK FANLI MANUEL MOTORLAR**  
*MANUEL SPINDLES WITH ELECTRIC FAN*

16

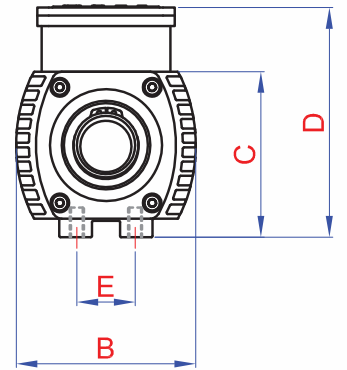
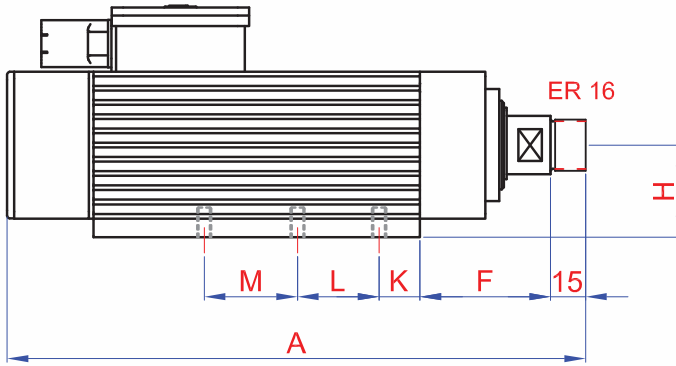
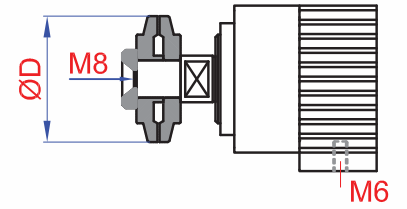
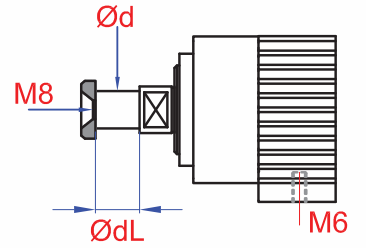


**ARFM**

**SU SOĞUTMALI MOTORLAR**  
*LIQUID COOLED SPINDLES*

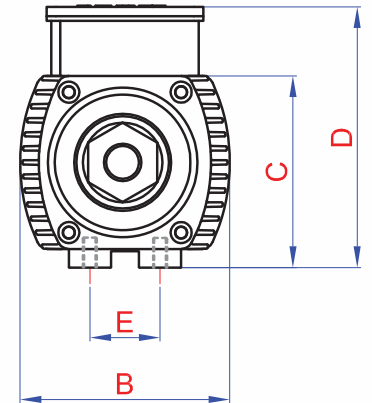
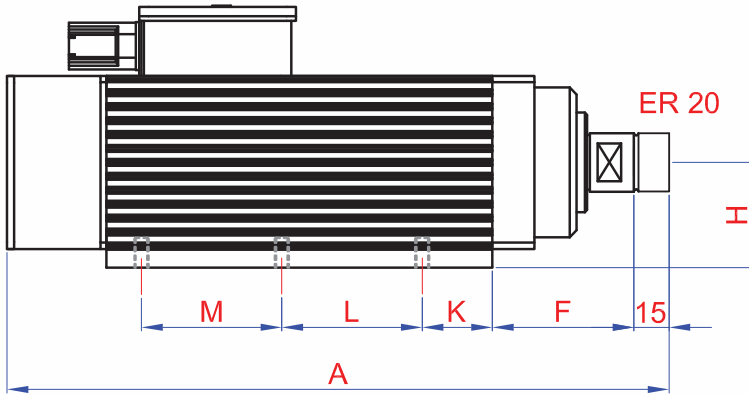
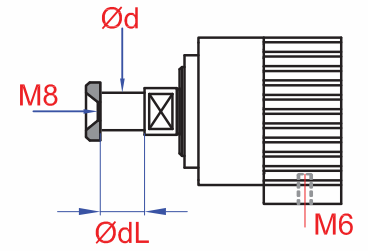
16

## ► ARFM.1Y MOTORLAR / SPINDLES



TİP / TYPE	A mm	B mm	C mm	D mm	E mm	F mm	H mm	K mm	L mm	M mm	Ø d mm	Ø D mm	Ø dL mm
ARFM.1Y-S	198	77	71	98	25	56	39,5	17,5	55	-	16	54	19
ARFM.1Y-M	248	77	71	98	25	56	39,5	17,5	35	40	16	54	19

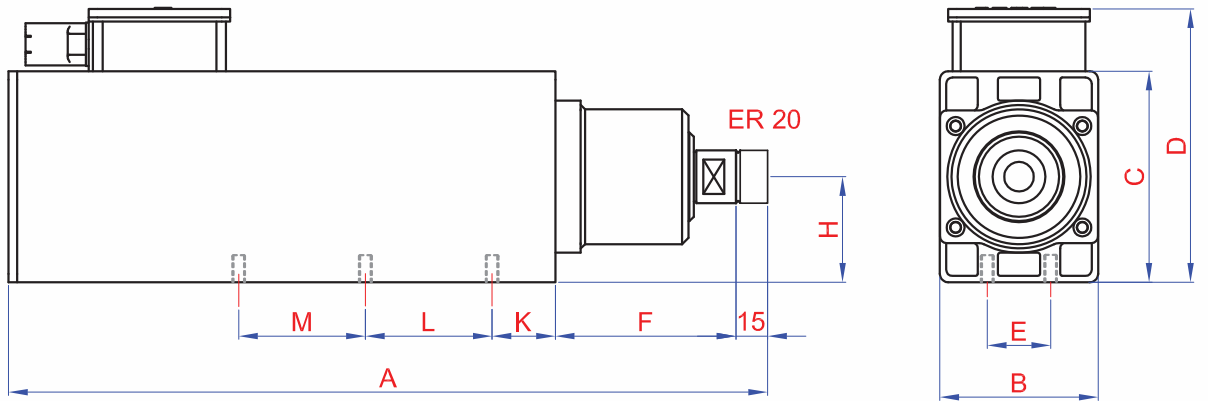
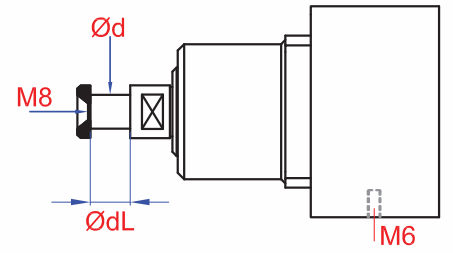
TİP / TYPE	KW / HP	Rpm	Hz.	Volt	Amper	Kg.	PENS / COLLETS
ARFM.1Y-S2	0,18 / 0,25	12.000	200	220V - 3~	0,8	2,10	ER 11 1 - 7 mm
ARFM.1Y-S3	0,25 / 0,34	18.000	300	220V - 3~	1,1	2,10	
ARFM.1Y-M2	0,37 / 0,5	12.000	200	220V - 3~	1,6	3,10	
ARFM.1Y-M3	0,55 / 0,75	18.000	300	220V - 3~	2,2	3,10	ER 16 1 - 10 mm
ARFM.1Y-M4	0,75 / 1	24.000	400	220V - 3~	2,6	3,10	

**ARFM.2Y MOTORLAR / SPINDLES**


TİP / TYPE	A mm	B mm	C mm	D mm	E mm	F mm	H mm	K mm	L mm	M mm	Ø d mm	Ø dL mm
ARFM.2Y-S	236	89,6	82	112	30	60,5	45	30	60	-	20	25
ARFM.2Y-M	286	89,6	82	112	30	60,5	45	30	60	-	20	25
ARFM.2Y-L	336	89,6	82	112	30	60,5	45	30	60	60	20	25

TİP / TYPE	KW / HP	Rpm	Hz.	Volt	Amper	Kg.	PENS / COLLETS
ARFM.2Y-S2	0,5 / 0,68	12.000	200	220V - 3~	1,8	3,80	ER 16 1 - 10 mm  ER 20 1 - 13 mm
ARFM.2Y-S3	0,75 / 1	18.000	300	220V - 3~	2,6	3,80	
ARFM.2Y-M2	0,9 / 1,2	12.000	200	220V - 3~	3	4,95	
ARFM.2Y-M3	1,4 / 1,9	18.000	300	220V - 3~	4,6	4,95	
ARFM.2Y-M4	0,18 / 0,25	3.000	50	380V - 3~	0,35	4,95	
ARFM.2Y-L2	1,3 / 1,75	12.000	200	220V - 3~	4,25	6,35	
ARFM.2Y-L3	2 / 2,65	18.000	300	220V - 3~	6,7	6,35	
ARFM.2Y-L4	0,37 / 0,5	3.000	50	380V - 3~	0,8	6,35	

## ARFM.2K MOTORLAR / SPINDLES

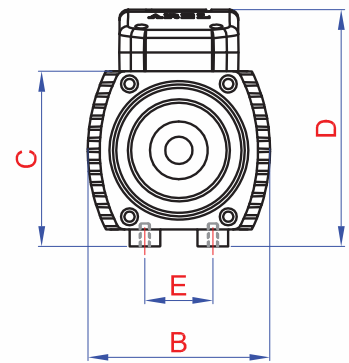
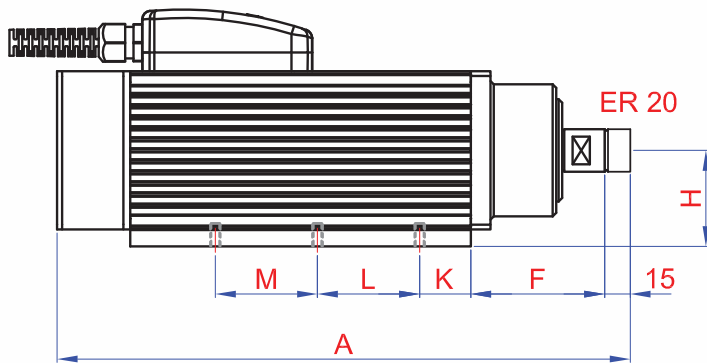
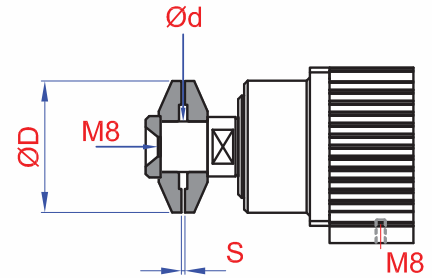


TİP / TYPE	A mm	B mm	C mm	D mm	E mm	F mm	H mm	K mm	L mm	M mm	Ø d mm	Ø dL mm
ARFM.2K-S	259,5	75	100	130	30	85,5	50	30	60	-	20	25
ARFM.2K-M	309,5	75	100	130	30	85,5	50	30	60	-	20	25
ARFM.2K-L	359,5	75	100	130	30	85,5	50	30	60	60	20	25

TİP / TYPE	KW / HP	Rpm	Hz.	Volt	Amper	Kg.	PENS / COLLETS
ARFM.2K-S2	0,5 / 0,68	12.000	200	220V - 3~	1,8	3,80	ER 16 1 - 10 mm
ARFM.2K-S3	0,75 / 1	18.000	300	220V - 3~	2,6	3,80	
ARFM.2K-M2	0,9 / 1,2	12.000	200	220V - 3~	1,6	5,50	
ARFM.2K-M3	1,4 / 1,9	18.000	300	220V - 3~	4,6	5,50	
ARFM.2K-M4	0,18 / 0,25	3.000	50	380V - 3~	0,35	5,50	ER 20 1 - 13 mm
ARFM.2K-L2	1,3 / 1,75	12.000	200	220V - 3~	4,25	7,20	
ARFM.2K-L3	2 / 2,65	18.000	300	220V - 3~	6,7	7,20	
ARFM.2K-L4	0,37 / 0,5	3.000	50	380V - 3~	0,8	7,20	



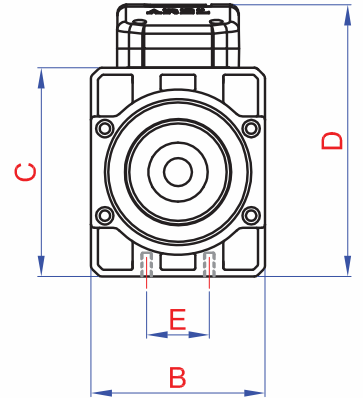
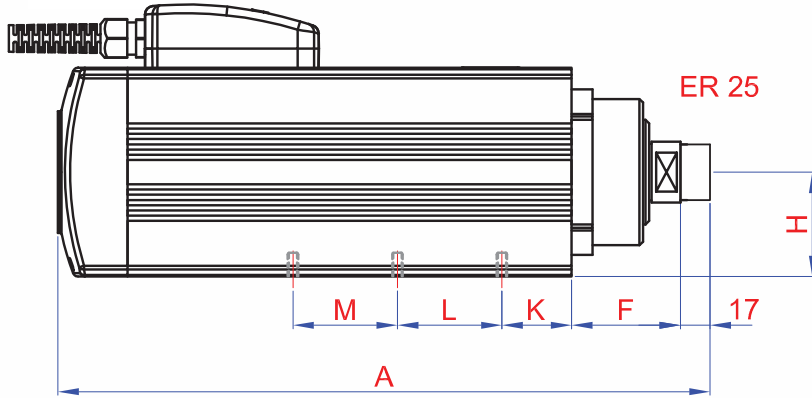
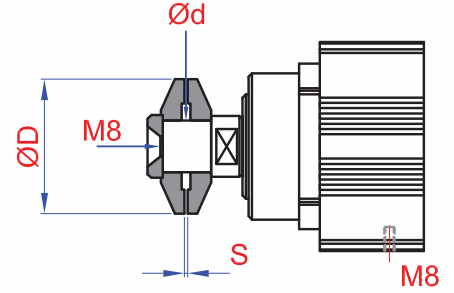
**▶ ARFM.3Y MOTORLAR / SPINDLES**



TİP / TYPE	A mm	B mm	C mm	D mm	E mm	F mm	H mm	K mm	L mm	M mm	Ø D mm	Ø d mm	S mm
ARFM.3Y-S	287	107	103	138	40	80	56,5	30	60	-	78	30	2
ARFM.3Y-M	337	107	103	138	40	80	56,5	30	60	60	78	30	2
ARFM.3Y-L	377	107	103	138	40	80	56,5	30	60	60	78	30	2

TİP / TYPE	KW / HP	Rpm	Hz.	Volt	Amper	Kg.	PENS / COLLETS
ARFM.3Y-S2	1,5 / 2	12.000	200	Δ 220-380Y	5,3 / 3,1	6,85	ER 20 1 - 13 mm  ER 25 1 - 16 mm
ARFM.3Y-S3	2,2 / 3	18.000	300	Δ 220-380Y	8 / 4,6	6,85	
ARFM.3Y-S4	0,37 / 0,5	3.000	50	Δ 220-380Y	1,4 / 0,8	6,85	
ARFM.3Y-M2	2,2 / 3	12.000	200	Δ 220-380Y	8 / 4,6	9	
ARFM.3Y-M3	3 / 4	18.000	300	Δ 220-380Y	10,5 / 6	9	
ARFM.3Y-M4	0,55 / 0,75	3.000	50	Δ 220-380Y	1,1 / 1,9	9	
ARFM.3Y-L1	1,5 / 2	6.000	200	Δ 220-380Y	5,3 / 3,1	10,85	
ARFM.3Y-L2	3 / 4	12.000	200	Δ 220-380Y	10,4 / 6	10,85	
ARFM.3Y-L3	4 / 5,5	18.000	300	Δ 220-380Y	14,2 / 8,2	10,85	
ARFM.3Y-L4	0,75 / 1	3.000	50	Δ 220-380Y	2,6 / 1,6	10,85	

## ▶ ARFM.3K MOTORLAR / SPINDLES

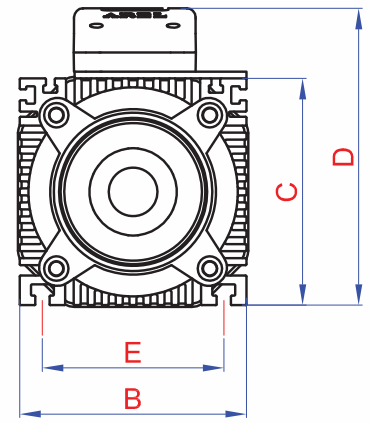
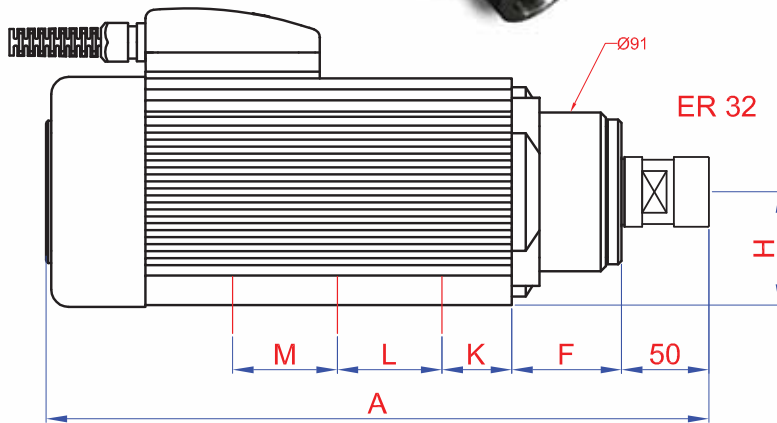
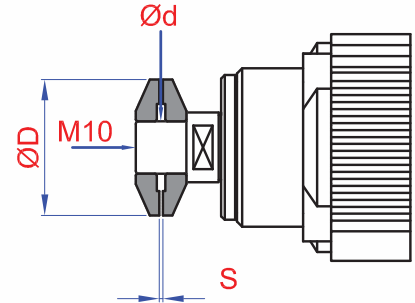


TİP / TYPE	A mm	B mm	C mm	D mm	E mm	F mm	H mm	K mm	L mm	M mm	Ø D mm	Ø d mm	S mm
ARFM.3K-S	285	100	120	156	36	62	60	40	60	-	78	30	2
ARFM.3K-M	335	100	120	156	36	62	60	40	60	60	78	30	2
ARFM.3K-L	375	100	120	156	36	62	60	40	60	60	78	30	2

TİP / TYPE	KW / HP	Rpm	Hz.	Volt	Amper	Kg.	PENS / COLLETS
ARFM.3K-S2	1,5 / 2	12.000	200	Δ 220-380 Y	5,3 / 3,1	8,75	ER 20 1 - 13 mm
ARFM.3K-S3	2,2 / 3	18.000	300	Δ 220-380 Y	8 / 4,6	8,75	
ARFM.3K-S4	0,37 / 0,5	3.000	50	Δ 220-380 Y	1,4 / 0,8	8,75	
ARFM.3K-M2	2,2 / 3	12.000	200	Δ 220-380 Y	8 / 4,6	11	
ARFM.3K-M3	3 / 4	18.000	300	Δ 220-380 Y	10,5 / 6	11	ER 25 1 - 16 mm
ARFM.3K-M4	0,55 / 0,75	3.000	50	Δ 220-380 Y	1,1 / 1,9	11	
ARFM.3K-L1	1,5 / 2	6.000	200	Δ 220-380 Y	5,3 / 3,1	12,8	
ARFM.3K-L2	3 / 4	12.000	200	Δ 220-380 Y	10,4 / 6	12,8	
ARFM.3K-L3	4 / 5,5	18.000	300	Δ 220-380 Y	14,2 / 8,2	12,8	
ARFM.3K-L4	0,75 / 1	3.000	50	Δ 220-380 Y	2,6 / 1,6	12,8	

Opsiyonel olarak elektrik fanlı veya su soğutmalı üretilebilmektedir. / Possible to produce with electric fan or liquid cooled as optional.

**▶ ARFM.4K MOTORLAR / SPINDLES**

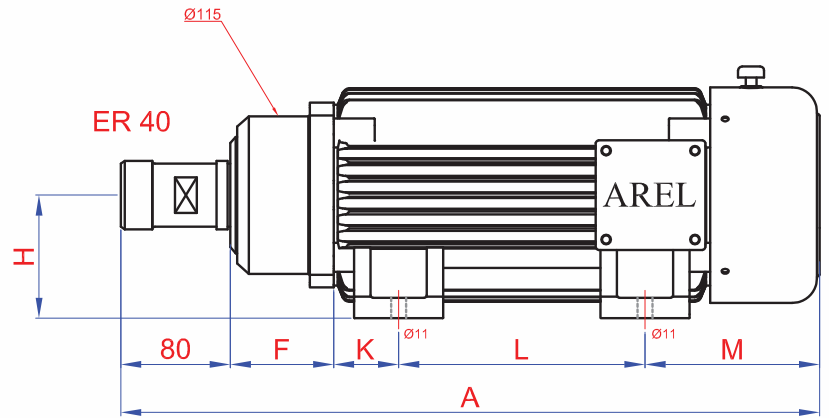
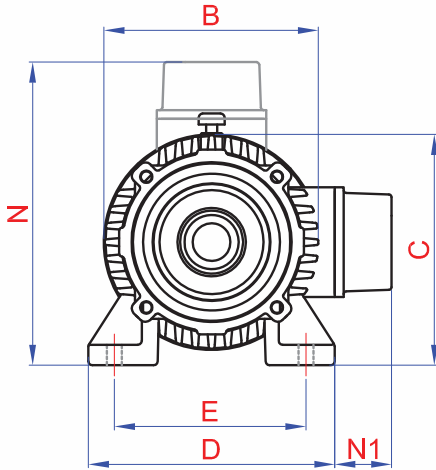
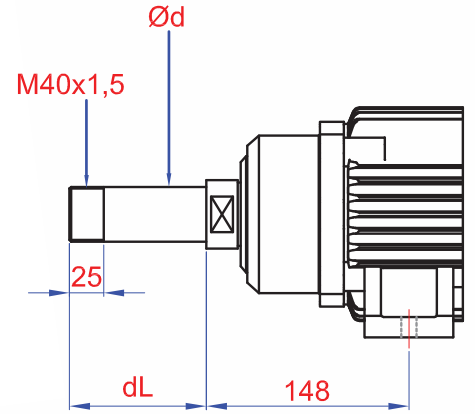


TİP / TYPE	A mm	B mm	C mm	D mm	E mm	F mm	H mm	K mm	L mm	M mm	Ø D mm	Ø d mm	S mm
ARFM.4K-S	330	130	130	170	104	63	65	M6 T KANAL / T SLOT		78	30	2	
ARFM.4K-M	380	130	130	170	104	63	65	M6 T KANAL / T SLOT		78	30	2	
ARFM.4K-L	420	130	130	170	104	63	65	M6 T KANAL / T SLOT		78	30	2	

TİP / TYPE	KW / HP	Rpm	Hz.	Volt	Amper	Kg.	PENS / COLLETS
ARFM.4K-S1	2 / 2,65	6.000	200	Δ 220-380 Y	7 / 4	13,5	ER 32 1 - 20 mm  ER 40 2 - 26 mm
ARFM.4K-S2	3 / 4	12.000	200	Δ 220-380 Y	10,4 / 6	13,5	
ARFM.4K-S3	4 / 5,5	18.000	300	Δ 220-380 Y	14 / 8,2	13,5	
ARFM.4K-S4	1,1 / 1,5	3.000	50	Δ 220-380 Y	3,8 / 2,2	13,5	
ARFM.4K-M1	3 / 4	6.000	200	Δ 220-380 Y	10,4 / 6	17,5	
ARFM.4K-M2	4 / 5,5	12.000	200	Δ 220-380 Y	14 / 8,2	17,5	
ARFM.4K-M3	5,5 / 7,5	18.000	300	Δ 220-380 Y	21 / 12	17,5	
ARFM.4K-M4	1,5 / 2	3.000	50	Δ 220-380 Y	6 / 3,5	17,5	
ARFM.4K-L1	4 / 5,5	6.000	200	Δ 220-380 Y	14 / 8,2	21,5	
ARFM.4K-L2	5,5 / 7,5	12.000	400	380 Δ	12	21,5	
ARFM.4K-L3	7,5 / 10	18.000	300	Δ 220-380 Y	26,5 / 15,5	21,5	
ARFM.4K-L4	2,2 / 3	3.000	50	Δ 220-380 Y	7,80 / 4,50	21,5	



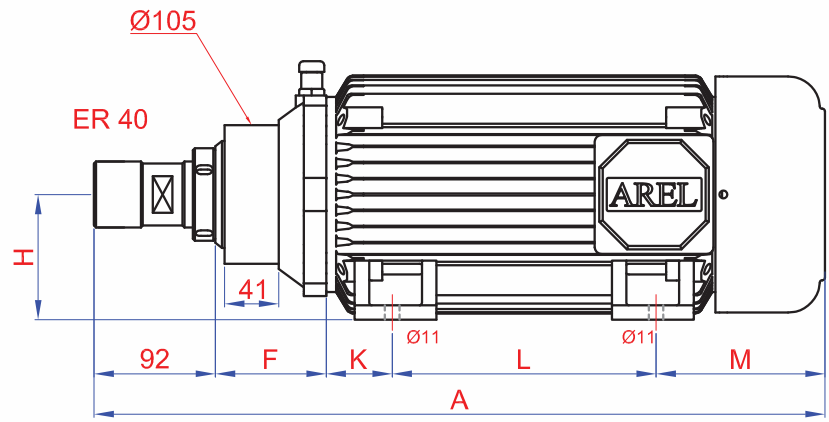
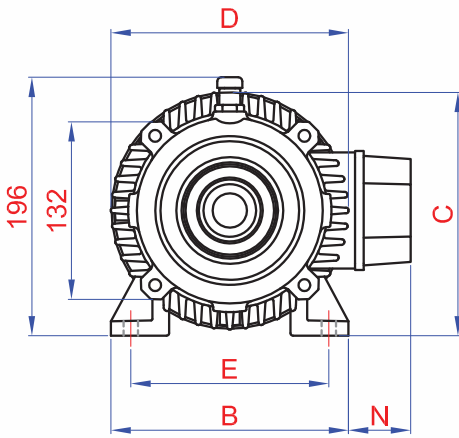
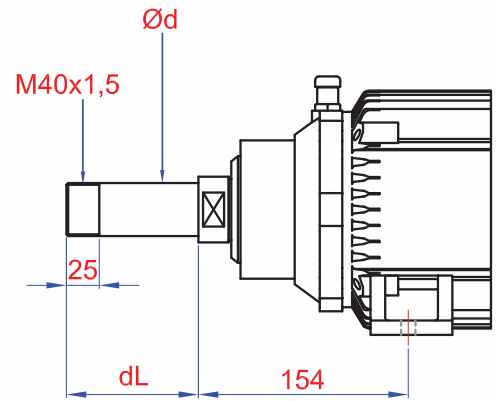
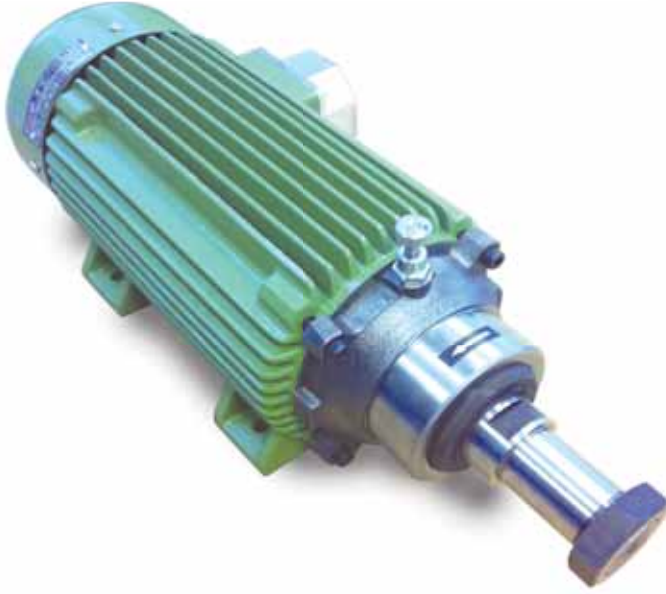
## ARFM.5Y MOTORLAR / SPINDLES



TİP / TYPE	A mm	B mm	C mm	D mm	E mm	F mm	H mm	K mm	L mm	M mm	N mm	N1 mm	Ø d mm	dL mm
ARFM.5Y-M	455	156	168	-	95	75	83,5	35	150	115	210	-	40	100
ARFM.5Y-L	510	156	168	176	140	75	90	47,5	180	127	-	47	40	100

TİP / TYPE	KW / HP	Rpm	Hz.	Volt	Amper	Kg.	PENS / COLLETS
ARFM.5Y-M1	4 / 5,5	6.000	200	Δ 220-380Y	14 / 8,2	29,5	ER 32 1 - 20 mm  ER 40 2 - 26 mm
ARFM.5Y-M2	6 / 8	12.000	400	380 Δ	13	29,5	
ARFM.5Y-M4	2,2 / 3	3.000	50	Δ 220-380Y	7,8 / 4,5	29,5	
ARFM.5Y-L1	6 / 8	6.000	200	Δ 220-380Y	22,5 / 13	41	
ARFM.5Y-L2	9 / 12	12.000	400	380 Δ	17	41	
ARFM.5Y-L4	3,7 / 5	3.000	50	Δ 220-380Y	12 / 7	41	

**▶ ARFM.6Y MOTORLAR / SPINDLES**



TİP / TYPE	A mm	B mm	C mm	D mm	E mm	F mm	H mm	K mm	L mm	M mm	N mm	Ø d mm	dL mm
ARFM.6Y-L	554	183	185	180	150	84	95	50	200	128	47	40	100

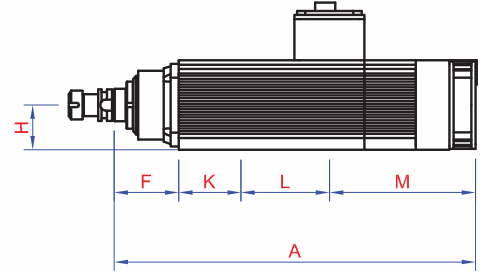
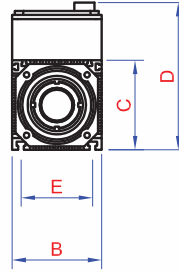
TİP / TYPE	KW / HP	Rpm	Hz.	Volt	Amper	Kg.	PENS / COLLETS
ARFM.6Y-L1	9 / 12	6.000	200	380 Δ	20	50	ER 32 1 - 20 mm
ARFM.6Y-L2	12,5 / 17	12.000	400	380 Δ	26	50	
ARFM.6Y-L4	6 / 8	3.000	50	Δ 220-380Y	18 / 10,5	50	ER 40 2 - 26 mm
ARFM.6Y-L5	3,5 / 4,75	1.500	50	Δ 220-380Y	10,7 / 6,2	50	

Opsiyonel olarak su soğutmalı üretilebilmektedir. / Possible to produce with liquid cooled as optional.

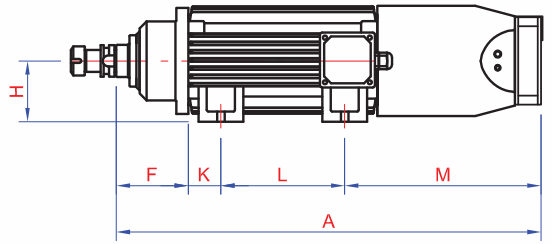
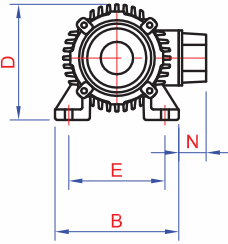
## ARFM TAKIM DEĞİŞTİRMELİ MOTORLAR AUTOMATIC TOOL CHANGE SPINDLES (ATC)



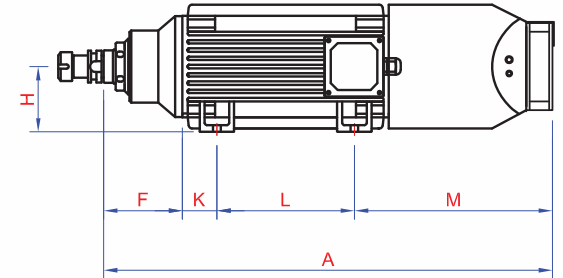
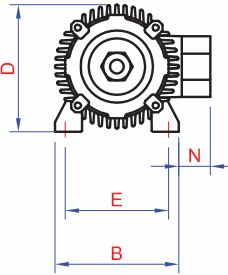
4T



5T



6T

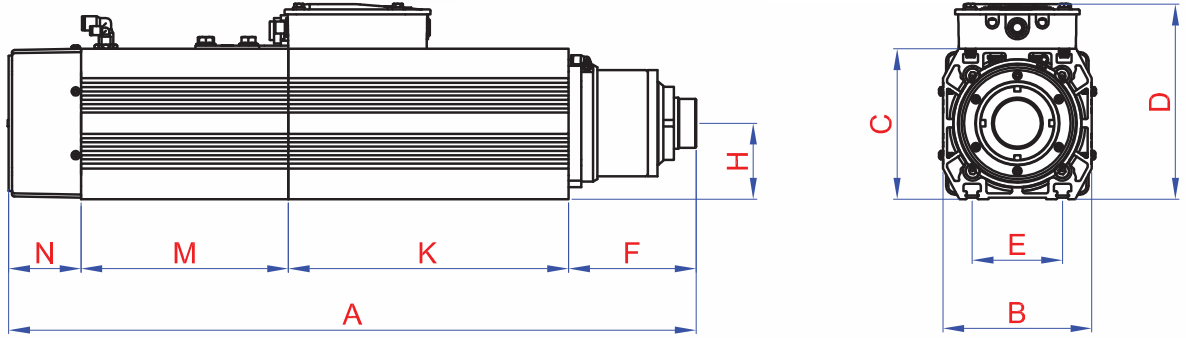


TİP / TYPE	A mm	B mm	C mm	D mm	E mm	F mm	H mm	K mm	L mm	M mm	N mm
ARFM.4T-S	438,5	130	130	210	104	95	65	M6 T KANAL / T SLOT			
ARFM.4T-M	488,5	130	130	210	104	95	65	M6 T KANAL / T SLOT			
ARFM.4T-L	528,5	130	130	210	104	95	65	M6 T KANAL / T SLOT			
ARFM.5T-L	618	176	-	168	140	105	88	47	180	286	40
ARFM.6T-L	655	183	-	185	150	115	95	50	200	290	46

TİP / TYPE	KW / HP	Rpm	Hz.	Volt	Amper	Kg.	PENS / COLLETS
ARFM.4T-S2	3 / 4	12.000	200	Δ 220-380 Y	10,4 / 6	20,5	SK 30 ATC
ARFM.4T-S3	4 / 5,5	18.000	300	Δ 220-380 Y	14 / 8,2	20,5	
ARFM.4T-M2	4 / 5,5	12.000	200	Δ 220-380 Y	14 / 8,2	24,5	
ARFM.4T-M3	5,5 / 7,5	18.000	300	Δ 220-380 Y	21 / 12	24,5	
ARFM.4T-L2	5,5 / 7,5	12.000	400	380 Δ	12	27,5	
ARFM.4T-L3	7,5 / 10	18.000	300	Δ 220-380 Y	26,5 / 15,5	27,5	
ARFM.5T-L1	6 / 8	6.000	200	Δ 220-380 Y	22,5 / 13	44	
ARFM.5T-L2	9 / 12	12.000	400	380 Δ	17	44	SK 30 ATC BT 40 ATC
ARFM.6T-L1	9 / 12	6.000	200	380 Δ	20	54	
ARFM.6T-L2	12,5 / 17	12.000	400	380 Δ	26	54	



## ▶ ARES TAKIM DEĞİŞTİRMELİ MOTORLAR AUTOMATIC TOOL CHANGE SPINDLES (ATC)



TİP / TYPE	A mm	B mm	C mm	D mm	E mm	F mm	H mm	K mm	M mm	N mm
ARES S (1)	556	140	141,5	184	85	120	71,5	M8 T KANAL / T SLOT	195	68
ARES M (2)	606	140	141,5	184	85	120	71,5	M8 T KANAL / T SLOT	195	68
ARES L (3)	646	140	141,5	184	85	120	71,5	M8 T KANAL / T SLOT	195	68

TİP / TYPE	KW / HP	Rpm	Hız.	Volt	Amper	Kg.	PENS / COLLETS
ARES - 301	2,2 / 3	3.000	50	380 Y	4,5	30,8	SK 30 ATC
ARES - 311	4 / 5,5	6.000	200	380 Y	10	30,8	
ARES - 321	5,5 / 7,5	12.000	400	380 Δ	12	30,8	
ARES - 331	7,5 / 10	18.000	300	380 Y	15,5	30,8	
ARES - 341	9 / 12	24.000	400	380 Y	18,5	30,8	

Opsiyonel olarak elektrik fanlı veya su soğutmalı üretilebilmektedir. / Possible to produce with electric fan or liquid cooled as optional.

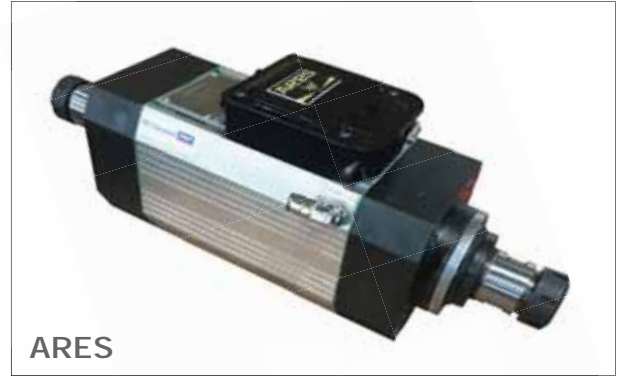
## ▶ ARFM ELEKTRİK FANLI MANUEL MOTORLAR *MANUEL SPINDLE WITH ELECTRIC FAN*

ARFM.3K ve ARES serisi bütün motorlar elektrik fanlı üretilebilmektedir  
*All ARFM.3K and ARES series spindles can be produced with electric fan*



## ▶ ARFM SU SOĞUTMALI MOTORLAR *LIQUID COOLED SPINDLES*

ARFM.3K, ARES ve ARFM.6Y serisi bütün motorlar su soğutmalı üretilebilmektedir  
*All ARFM.3K, ARES and ARFM.6Y series spindles can be produced with liquid cooled*



## TÜM MODELLER / ALL MODELS

TIP / TYPE	KW / HP	Rpm	Hz.	Volt	Amper	Kg.	Dim.(mm)	Pens / Collet			
ARFM.1Y-S2	0,18 / 0,25	12.000	200	220 v. 3 ~	0,8	2,1	77 x 71	ER11 1-7 mm ER16 1-10 mm			
ARFM.1Y-S3	0,25 / 0,34	18.000	300		1,1						
ARFM.1Y-M2	0,37 / 0,5	12.000	200		1,6	3,1					
ARFM.1Y-M3	0,55 / 0,75	18.000	300		2,2						
ARFM.1Y-M4	0,75 / 1	24.000	400	2,6							
ARFM.2Y-S2	0,5 / 0,68	12.000	200	220 v. 3 ~	1,8	3,8	89,6 x 82	ER16 1-10 mm ER20 1-13 mm			
ARFM.2Y-S3	0,75 / 1	18.000	300		2,6						
ARFM.2Y-M2	0,9 / 1,2	12.000	200		3	4,95					
ARFM.2Y-M3	1,4 / 1,9	18.000	300		4,6						
ARFM.2Y-M4	0,18 / 0,25	3.000	50	380 v. 3 ~	0,35						
ARFM.2Y-L2	1,30 / 1,75	12.000	200	220 v. 3 ~	4,25	6,35					
ARFM.2Y-L3	2 / 2,65	18.000	300		6,7						
ARFM.2Y-L4	0,37 / 0,5	3.000	50	380 v. 3 ~	0,8						
ARFM.2K-S2	0,5 / 0,68	12.000	200	220 v. 3 ~	1,8	3,8	75 x 100	ER 16 1 - 10 mm ER 20 1 - 13 mm			
ARFM.2K-S3	0,75 / 1	18.000	300		2,6						
ARFM.2K-M2	0,9 / 1,2	12.000	200		1,6	5,5					
ARFM.2K-M3	1,4 / 1,9	18.000	300		4,6						
ARFM.2K-M4	0,18 / 0,25	3.000	50	380 v. 3 ~	0,35						
ARFM.2K-L2	1,3 / 1,75	12.000	200	220 v. 3 ~	4,25	7,2					
ARFM.2K-L3	2 / 2,65	18.000	300		6,7						
ARFM.2K-L4	0,37 / 0,5	3.000	50	380 v. 3 ~	0,8						
ARFM.3Y-S2	1,5 / 2	12.000	200	Δ 220 - 380 Y	5,3 / 3,1	6,85	107 x 103	ER20 1-13 mm ER25 1-16 mm			
ARFM.3Y-S3	2,2 / 3	18.000	300		8 / 4,6						
ARFM.3Y-S4	0,37 / 0,5	3.000	50		1,4 / 0,8	9					
ARFM.3Y-M2	2,2 / 3	12.000	200		8 / 4,6						
ARFM.3Y-M3	3 / 4	18.000	300		10,5 / 6	10,85					
ARFM.3Y-M4	0,55 / 0,75	3.000	50		1,1 / 1,9						
ARFM.3Y-L1	1,5 / 2	6.000	200		5,3 / 3,1						
ARFM.3Y-L2	3 / 4	12.000	200		10,4 / 6						
ARFM.3Y-L3	4 / 5,5	18.000	300		14,2 / 8,2						
ARFM.3Y-L4	0,75 / 1	3.000	50		2,6 / 1,6						
ARFM.3K-S2	1,5 / 2	12.000	200		Δ 220 - 380 Y	5,3 / 3,1			8,75	100 x 120	ER20 1-13 mm ER25 1-16 mm
ARFM.3K-S3	2,2 / 3	18.000	300			8 / 4,6					
ARFM.3K-S4	0,37 / 0,5	3.000	50	1,4 / 0,8		11					
ARFM.3K-M2	2,2 / 3	12.000	200	8 / 4,6							
ARFM.3K-M3	3 / 4	18.000	300	10,5 / 6		12,8					
ARFM.3K-M4	0,55 / 0,75	3.000	50	1,1 / 1,9							
ARFM.3K-L1	1,5 / 2	6.000	200	5,3 / 3,1							
ARFM.3K-L2	3 / 4	12.000	200	10,4 / 6							
ARFM.3K-L3	4 / 5,5	18.000	300	14,2 / 8,2							
ARFM.3K-L4	0,75 / 1	3.000	50	2,6 / 1,6							
ARFM.4K-S1	2 / 2,65	6.000	200	Δ 220 - 380 Y		7 / 4	13,5	130 x 130	ER32 1-20 mm ER40 2-26 mm		
ARFM.4K-S2	3 / 4	12.000	200			10,4 / 6					
ARFM.4K-S3	4 / 5,5	18.000	300		14 / 8,2	17,5					
ARFM.4K-S4	1,1 / 1,5	3.000	50		3,8 / 2,2						
ARFM.4K-M1	3 / 4	6.000	200		10,4 / 6	21,5					
ARFM.4K-M2	4 / 5,5	12.000	200		14 / 8,2						
ARFM.4K-M3	5,5 / 7,5	18.000	300		21 / 12						
ARFM.4K-M4	1,5 / 2	3.000	50		6 / 3,5						
ARFM.4K-L1	4 / 5,5	6.000	200		14 / 8,2						
ARFM.4K-L2	5,5 / 7,5	12.000	400		Δ 380	12					
ARFM.4K-L3	7,5 / 10	18.000	300		Δ 220 - 380 Y	26,5 / 15,5					
ARFM.4K-L4	2,2 / 3	3.000	50		7,8 / 4,5						
ARFM.5Y-M1	4 / 5,5	6.000	200	Δ 220 - 380 Y	14 / 8,2	29,5	Ø 156	ER32 1-20 mm			
ARFM.5Y-M2	6 / 8	12.000	400	Δ 380	13						
ARFM.5Y-M4	2,2 / 3	3.000	50	Δ 220 - 380 Y	7,8 / 4,5	41					
ARFM.5Y-L1	6 / 8	6.000	200	Δ 220 - 380 Y	22,5 / 13						
ARFM.5Y-L2	9 / 12	12.000	400	Δ 380	17						
ARFM.5Y-L4	3,7 / 5	3.000	50	Δ 220 - 380 Y	12 / 7						
ARFM.6Y-L1	9 / 12	6.000	200	Δ 380	20	50	Ø 180	ER40 2-26 mm			
ARFM.6Y-L2	12,5 / 17	12.000	400		26						
ARFM.6Y-L4	6 / 8	3.000	50	Δ 220 - 380 Y	18 / 10,5						
ARFM.6Y-L5	3,5 / 4,75	1.500	50		10,7 / 6,2						
ARFM.4T-S2	3 / 4	12.000	200	Δ 220 - 380 Y	10,4 / 6	20,5	130 x 130	SK 30 ATC			
ARFM.4T-S3	4 / 5,5	18.000	300		14 / 8,2						
ARFM.4T-M2	4 / 5,5	12.000	200		14 / 8,2	24,5					
ARFM.4T-M3	5,5 / 7,5	18.000	300		21 / 12						
ARFM.4T-L2	5,5 / 7,5	12.000	400	Δ 380	12	27,5					
ARFM.4T-L3	7,5 / 10	18.000	300	Δ 220 - 380 Y	26,5 / 15,5						
ARFM.5T-L1	6 / 8	6.000	200	Δ 220 - 380 Y	22,5 / 13	44	Ø 156				
ARFM.5T-L2	9 / 12	12.000	400		17						
ARFM.6T-L1	9 / 12	6.000	200	Δ 380	20	54	Ø 180	SK 30 ATC BT 40 ATC			
ARFM.6T-L2	12,5 / 17	12.000	400		26						
ARES-131	4 / 5,5	18.000	300	Y 380	8,2	23,5					
ARES-141	5,5 / 7,5	24.000	400		12						
ARES-321	5,5 / 7,5	12.000	400	Δ 380	12	30,8	140 x 141,5	SK 30 ATC			
ARES-331	7,5 / 10	18.000	300	Y 380	15,5						
ARES-341	9 / 12	24.000	400			18,5					



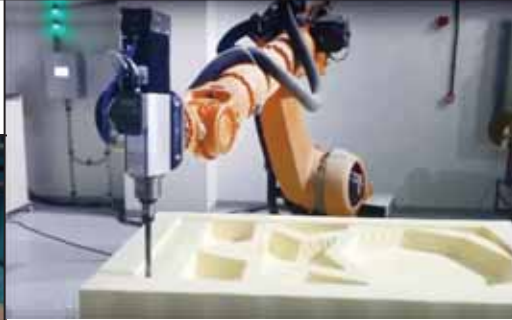
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1202/1 Cadde No:109-111  
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T. +90 312 385 02 02  
F. +90 312 385 08 14

**Fabrika / Factory**  
Kırım Hanlığı Caddesi No:7, 1. OSB  
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T. +90 312 267 58 38  
F. +90 312 267 58 43



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